FieldView Device

Version 3

User Guide

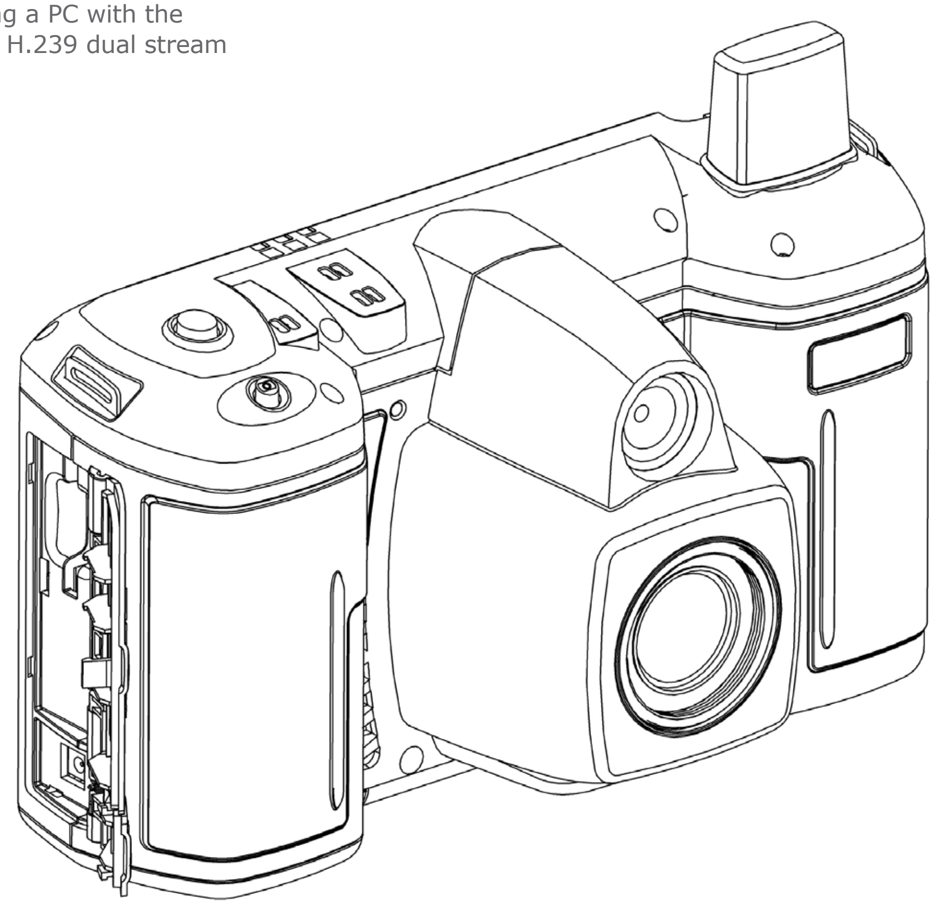
TANDBERG FieldView™ delivers the most innovative solution in mobile video collaboration.

Featuring integrated wireless LAN, high resolution video and audio and the ability to collaborate via instant on-screen annotation—it's the next best thing to having your experts on the scene.

Its ability to access small spaces enables productivity in areas previously inaccessible by video, allowing organizations to address and resolve issues instantly.

Recording capabilities enable device and PC users to archive material for a later date or collaborate over previously recorded material.

All content can also be extended to an office-based video meeting using a PC with the FieldView application and H.239 dual stream capabilities.



D14041.02 January 2008

TANDBERG

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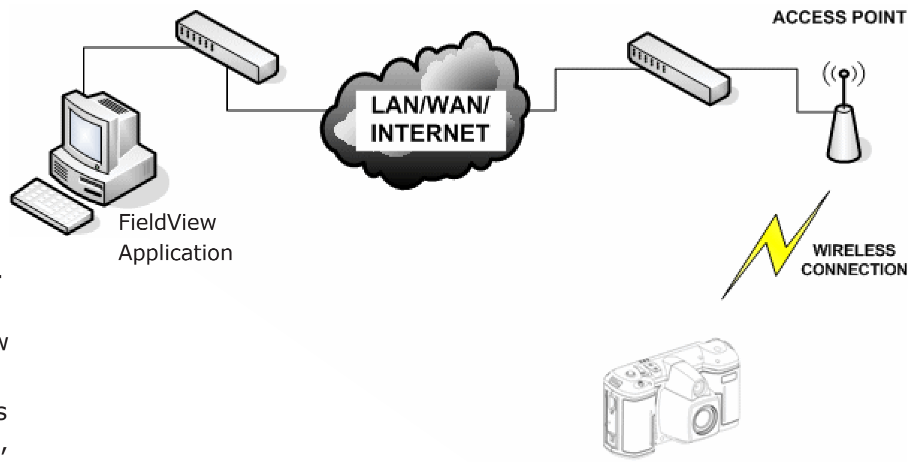
1. The FieldView Device

The FieldView system provides mobile real-time video conferencing for locations that are usually not accessible with standard video conferencing equipment. This includes locations such as test labs, health care facilities, factory floors, service departments, remote suppliers, inspection areas, customer facilities, and other remote work team locations.

This manual describes the FieldView Device. An Operator at a remote site uses the FieldView Device to communicate with a Client user over a network.

The FieldView Device allows both the Operator and the Client user to:

- Converse just as they would on a mobile telephone.
- View and listen to streaming audio/video output in real time.
- Stream audio and video recordings to the FieldView Device in real time.
- Capture and save snapshot images.
- Share snapshot images between the FieldView Application and FieldView Device.
- Record and play back video.
- Adjust the controls (e.g., zoom, focus, draw on the screen).



The FieldView Device allows technical experts and remote operators to jointly view, consult, diagnose and resolve issues by sending high-resolution video, sound and still images through streaming multimedia from the onsite FieldView Device to a FieldView Application on an office workstation.

1.1. About This Guide

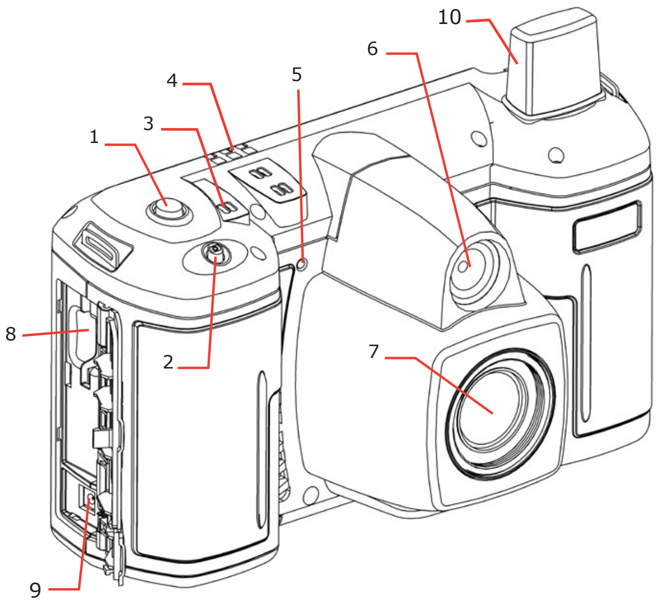
This guide describes how to use the FieldView Device on a system that has already been set up and configured. For information on FieldView Device configuration, maintenance and network or other infrastructure setup, please consult the FieldView System Administration Manual. For information on the FieldView Application software client application, consult the FieldView Application User Guide.

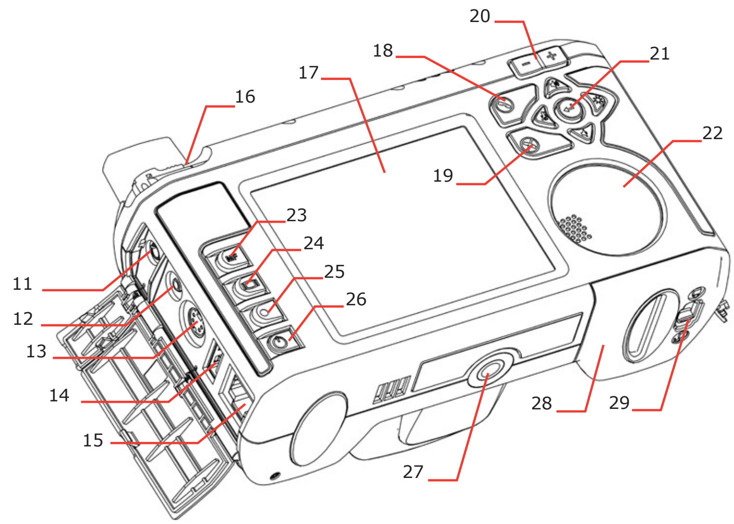
1.2. What's in the Box

- The FieldView Device
- External power adapter
- Stylus
- Rechargeable 2400 mAh Li-Ion battery pack
- Wrist strap
- Quick Start Guide
- CD of user guides, end user license, copyright, and FieldView Application software
- Safety and regulatory information.

For information on additional accessories or for updated FieldView Device documentation, consult the TANDBERG website at **http://www.tandberg.com/**.

1.3. Parts of the FieldView Device





1 – Streaming on/off
2 – Still image capture
3 – Microphone
4 - LED indicators
5 – Streaming indicator *(red = streaming on)*

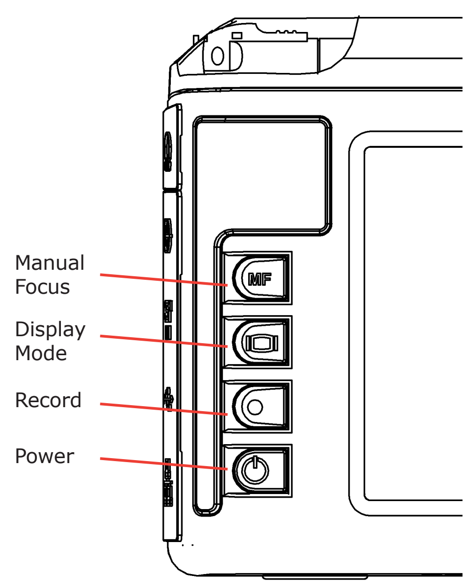
6 – Light
7 – Camera lens
8 – SD memory card slot
9 – External power connector
10 – Antenna

11 – Headset connector
12 – Audio line in *(plug in external audio source)*
13 – S-Video in
14 – USB host interface
15 – Ethernet port
16 – Stylus
17 – Viewfinder
18 – Send button
19 – End button

20 – Zoom/Manual focus controls
21 – Navigation pad
22 – Speaker
23 - Focus button
24 – Display mode button
25 – Recording On/Off button
26 – Power button
27 – Tripod mount
28 – Battery door
29 – Battery lock

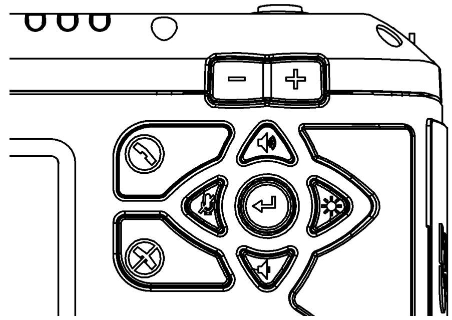
1.3.1 Control Buttons

Button	Function
Manual Focus	Use this button to set the focus manually or to resume automatic focusing. It works in combination with the Zoom buttons. See *Focusing* on page 11 for more information.
Display Mode	This button cycles through the FieldView Device's multiple display modes. See *Viewfinder Features & Display Modes*, on page 14 for more information.
Record	Press this button to start/stop recording to a local Secure Digital (SD) memory card.
Power	This button controls On/Off/Standby modes. See *Turning Power On or Off* on page 6 for more information. **If FieldView Device status is... Power button function** **Off** – Press and release the button to turn power on. **On** – Press and release the button to go to Standby mode. **Standby** – Press and release the button to enter Power On mode. **On** or **Standby** – Press and hold the button for two seconds to turn the unit off. A shutdown message appears.



1.3.2. Navigation Pad Buttons

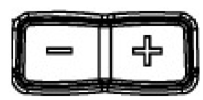
These context-sensitive buttons control audio volume, microphone mute and the front light. They also function as command buttons and directional buttons for the menus.



Button	Function	Menu Function
	Start or accept call (**Send**)	OK or Enter
	**End** a call or reject an incoming call invitation	Cancel
	Increase volume	Up arrow
	Microphone mute	Left arrow
	Decrease volume	Down arrow
	Front illumination light on/off	Right arrow
	Enter	Accept

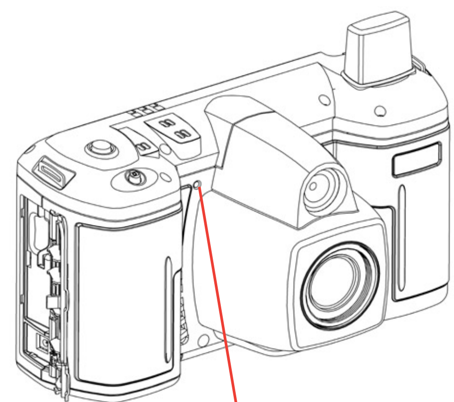
1.3.3. Zoom/Manual Focus Controls

The Zoom buttons are located on the back of the FieldView Device, directly above the Navigation Pad. These allow the Operator to set zoom levels on the camera or to set focus manually (see page 11).



1.3.4. Indicators

Indicator	Name	Explanation
	Power mode indicator	Green = On or Standby
	Network indicator	Green = Network available Off = Network unavailable
	Battery/power indicator	Orange = Battery is charging Off = Battery is charged or power is not connected
	Stream/record	Red = streaming/recording on. Off = streaming/recording off
	Network connector	The Ethernet Port (shown as #15 on the diagram on page 2) also includes an LED indicator: Yellow On = a wired network link exists. Yellow Flashing – indicates wired network activity Yellow Off = no wired network link The green LED is not used at this time.



Stream/record indicator

1.3.5. Soft Keys

Some screens contain on-screen keys or buttons, e.g., **Accept** or **Cancel** on a configuration screen. You can select these buttons by tapping the key with your stylus, or by pressing Navigation pad keys.

2. FieldView Device Basic Operation

2.1. Charging the Battery

New batteries should be charged prior to first use. To do this, plug in the external power adapter and allow the battery to charge until the orange battery indicator extinguishes (up to eight hours). The internal battery charger will shut itself off to prevent overcharging once the battery is fully charged.

Note that the FieldView Device shuts itself off when battery power is low.

- If the unit is on, and an Operator is using it in an active call, a warning message appears so that the Operator has time to plug the FieldView Device in to the external power adapter, or end the call before the FieldView Device shuts off.
- If the unit is in Standby, it simply shuts itself off.
- If the unit is off, it cannot be started when the battery is low.

To check current battery levels, press the **Display** button once and check the Session information at the bottom of the Viewfinder. See page 14 for more information on Viewfinder and Display modes.

2.2. Inserting or Replacing the Battery

Important: Before using this device for the first time you must install and charge the battery. Here's how (refer to figures at right):

1. Open the battery compartment and insert the battery until it clicks into place and is flush. It only fits one way.
2. Close the battery door as follows:
    - Ensure the lock switch is in the Un-locked position.
    - Orient the battery door so it is flat against the battery well, but with a 3mm gap (as shown in the lower figure).
    - Slide the door toward the center of the FieldView Device until it is fully closed.
    - Slide the lock switch to the Locked position.
3. Connect the FieldView Device to the external power adapter and charge the battery until the orange LED turns off (up to 8 hours).

Note: The device **will not** operate on the external adapter alone. You must have a battery installed.

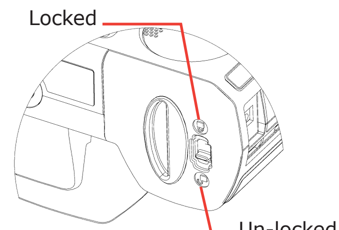


Figure 1

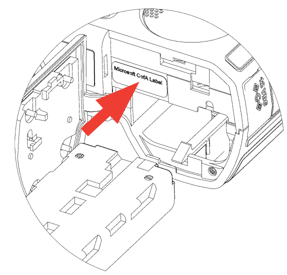


Figure 2

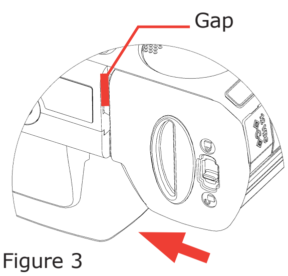


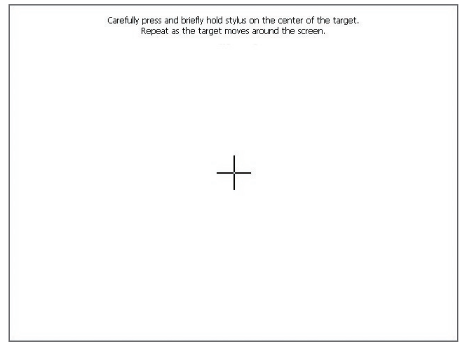
Figure 3

2.3. Calibrating the Integrated Touch Panel

The Viewfinder display on the back of the FieldView Device includes an integrated touch panel designed for use with the stylus that has been included with the FieldView Device. The Viewfinder touch panel allows control of many FieldView Device features, including menu selection, configuration, text entry (via on screen keyboard) and on screen button selection. In addition, the touch panel can be used to draw over images and video. See *Telestration* on page 12.

Important: When you are using the Viewfinder screen, always use the stylus provided with the FieldView Device. Do not use other objects, as this could damage the Viewfinder screen. Tap the screen lightly. Do not press hard or strike the screen.

When you first start the FieldView Device, if the touch screen has not been calibrated, the FieldView Device presents a calibration screen. Follow the on-screen instructions to calibrate your touch panel to permit precise control.



Touch screen calibration

2.3.1. Displaying the calibration screen using navigation pad buttons

If the touch screen is incorrectly calibrated to the extent that it can't be used to navigate the menu settings, you can access the screen calibration function using the keypad: simultaneously press and hold the **Up** and **Down** buttons while not pressing the **Enter** button. This will display the touch calibration screen.

2.4. Turning Power On or Off

There are three power modes: On, Off and Standby

2.4.1. Power On Mode

Press and release the **Power** button to turn the FieldView Device on. When you first turn the camera on, you may be required to log in, and a touch panel calibration screen may appear.

When the power is on the Power indicator LED is green.

2.4.2. Power Off Mode

Turning off the FieldView Device automatically logs you out. To turn the FieldView Device Off, press and hold the **Power** button for two seconds.

- If the FieldView Device was on, a message is displayed indicating that the FieldView Device is turning off. If a call was active a prompt appears, asking for confirmation to terminate the call.
- If the FieldView Device was in standby, it immediately switches off.

When the power is off the Power indicator LED is off.

2.4.3. Standby Mode

Standby mode provides longer battery life than Power On mode because it shuts down the display and puts the camera into a low power mode. However, incoming calls may still be received. To enter Standby mode, first turn the FieldView Device on, then press and release the **Power** button to enter Standby mode.

If a call was active a prompt is displayed asking for confirmation to terminate the call. A message is displayed indicating that the FieldView Device is entering Standby.

When the FieldView Device is in Standby mode, the Power indicator LED is green. This is the only visible indication that the FieldView Device is in Standby mode and is capable of receiving incoming calls.

To come out of Standby, press the **Power** button or answer an incoming call. If your site requires a log-in, you can answer a call but you must log in again before you can use the FieldView Device to stream video. A log-in screen is presented as soon as you do something that requires it.

The FieldView Device also enters Standby mode automatically after a configurable amount of time. To set this:

1. From the standard Viewfinder display window, press and release the **Display** button three times (or until the Main Menu appears).
2. Tap the **Configuration** option with the stylus to display the Configuration screen.
3. Display the *General* tab and set the time in the **Standby Timeout** field. Enter a time of ‘0’ to disable automatic Standby mode.

2.4.4. Resetting the FieldView Device (Soft Reset)

If the FieldView Device becomes non-responsive and you cannot turn it off by pressing the **Power** button for two seconds, a soft reset may be required. To reset the FieldView Device, press and hold both the **Power** and **Display** buttons until the display clears (approximately 10 seconds).

Do not perform a soft reset on the FieldView Device unless it stops responding to normal operations.

CAUTION:
A hard reset can be generated using the reset switch accessible through the access hole located near the SD memory card slot. The hard reset should not be used by non-service personnel because damage to the FieldView Device file system may result.

2.5. Logging On & Off

2.5.1. Logging on

If your site requires a login, you will be prompted with a Login screen, as shown to the right. See your site administrator for user name and password.

If the FieldView Device has not been configured, use the default user name and password.

- User name: *admin*
- Password: *admin*

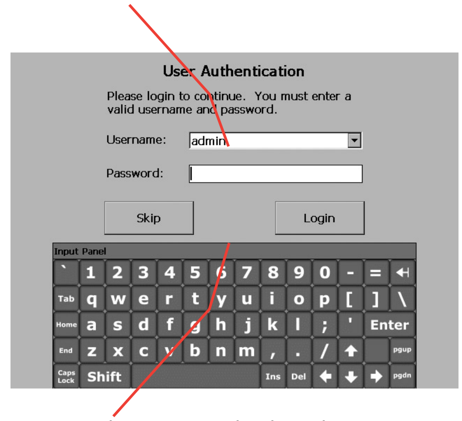
We strongly recommend that you change the administrator password from the default *admin* as soon as you log in.

To login to the FieldView Device:

1. Tap the **Username** field with the stylus. An on screen keyboard appears.
2. Use the stylus to tap characters on the keyboard to enter them into the **Username** field.
3. Use the same process to enter your password.
4. Tap the **OK** button to finish logging in.

Note: If your site administrator has enabled anonymous login, a **Skip** button is available to bypass the login process.

Keyboard appears when you select a text field. Tap the keys with the stylus to enter text.



To move the onscreen keyboard to a new location on the screen, touch the stylus to the edge of the keyboard image and drag it to a new location.

2.5.2 Logging off

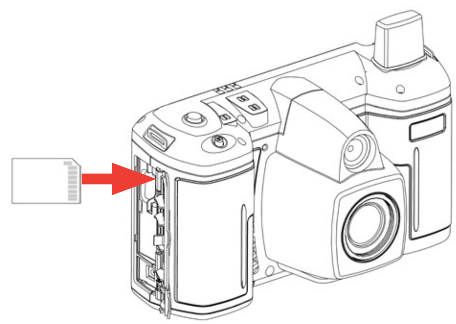
To log out:

1. From the standard Viewfinder display window, press and release the **Display** button three times (or until the Main Menu appears).
2. Select **Signout** from the Main Menu by tapping it with the stylus.

2.6. Inserting and Removing an SD Memory Card

The FieldView Device features an SD memory card slot for recording of video and snapshots, and to support configuration and system upgrades and also to support future capabilities. To insert or replace an SD memory card:

1. Open the SD memory card slot cover on the side of the FieldView Device, as shown at right.
2. If there is already an SD memory card in place, push and release it gently to release it from the slot.
3. Pull the card out. It should slide out easily.
4. Push the card gently in until it clicks into place.
5. Close the compartment cover.



Note: Do not remove the SD card while recording. This can corrupt the card data.

3. Answering & Initiating Calls

The FieldView Device Operator can either:

- Call a FieldView Application software client user, or
- Answer an incoming call from a FieldView Application software client user.

Use the **Send** and **End** buttons on the Navigation pad to start and end calls, similar to the keys on a mobile phone. Once a call is established, the Operator and Client can collaborate using voice, video, audio, images and annotations.

3.1. Network Access

Before you can answer or initiate a call, you must be able to communicate with the network, either through a direct wired connection, or a wireless connection. Your FieldView Device must be configured with the appropriate wireless and SIP (if used) parameters to operate over this connection. For information on FieldView Device network configuration, refer to *Configuration* on page 18 and consult the FieldView System Administration Manual.

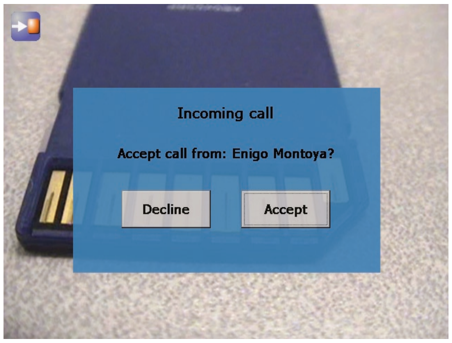
The Network link indicator, the middle of the three indicators on the top of the FieldView Device, indicates whether or not a Network link exists.

To check current wireless network conditions, you can press the **Display** button once and check the Session information at the bottom of the Viewfinder. Another option is to press the **Display** button three times to display the Main Menu. Tap the **Status** option with the stylus, and then select **Network**. See page 14 for more information on the Viewfinder and Display modes.

3.2. Answering an Incoming Call

To receive incoming calls, the FieldView Device must be on or in standby mode. When a call comes in, the FieldView Device rings like a mobile phone and the Viewfinder displays a dialog box similar to the one shown

- To accept (answer) the call, tap the **Accept** button or press the FieldView Device **Send** button.
- To refuse the call, tap the **Decline** button, or press the FieldView Device **End** button.



An incoming call displayed on the Viewfinder.

3.3. Initiating (Starting) a Call

To initiate or start a call from a FieldView Device:

1. Press the **Send** button to display a Directory window listing the Clients that this FieldView Device has been set up to contact. This list is maintained by your site's System Administrator.
2. Use the Navigation pad buttons to highlight the Client that you want to call. When you select a name, the Client's destination address appears in the field at the bottom of the window.

   If the correct name does not exist, tap the field at the bottom of the window and use the on screen keyboard to enter the address of the Client you need to call. Consult your site administrator for details.
3. When the desired network address is displayed in the **Network address** field, either tap the **Dial** button with the stylus or press the **Send** button to initiate the call.

You will hear the outgoing rings or a busy signal on the FieldView Device just as you would on a mobile phone. When the Client answers the call, the Operator and Client can start talking, just like a mobile phone. If the Client declines the call a message will be displayed indicating the reason.

3.4. Ending a Call

End a call by pressing the **End** button. The Client user can also terminate the call from the FieldView Application.

3.5. VoIP Telephone Communication

For conversation, the FieldView Device can operate using its built-in microphone and speaker, or a headset:

Speaker phone. If a headset is not attached, the FieldView Device operates as a speaker phone using a built-in omni-directional microphone and speaker.

Headset. If you plug a headset into the headset connector the FieldView Device uses the headset microphone and speaker. This is useful in noisy environments or where privacy is a concern. In this case, Subject Audio continues to use the built-in microphone or external audio line-in, if selected.

Note that if the Operator needs to capture particular sounds as part of the video stream (e.g., an odd noise being made by a piece of machinery), you can change the *subject audio* source, as described in *Setting the Subject Audio Source* on page 10.

4. Audio/Video (AV) Functions

Once a call is connected, the FieldView Device can send an AV media stream to the FieldView Application software client.

4.1. Turning the Video Stream On or Off

To start streaming real-time video to the FieldView Application software client, press the green **Stream** button on the top of the FieldView Device. Press the **Stream** button again to stop streaming. This does not disconnect the call; the stream can be started and stopped as often as desired within the current call.

This sends a live audio/video media stream from the FieldView Device to the FieldView Application software client. The stream will continue as long as the call is connected (i.e., neither user hangs up the call), or until the Operator or FieldView Application user selects an option to stop streaming.

4.2. Setting the Subject Audio Source

The FieldView Device provides two audio channels: one for subject audio and one for VoIP telephone communication (see page 9).

The Subject audio—the audio being captured and streamed with the video—can be captured by the FieldView Device's built-in microphone or from an audio source connected to the Line-In port. This allows the FieldView Device to capture and stream high-quality audio that is time-synchronized with the video. The green **Stream** button also starts and stops streaming of Subject Audio, just as in video streaming described above.

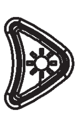
To set which source will act as the Subject Audio Source:

1. From the standard Viewfinder display window, press the **Display** button three times (or until the Main Menu appears).
2. Tap the **Configuration** option with the stylus to display the Configuration screen.
3. Display the *Audio* tab. This tab allows you to control speaker and microphone volume, and to select the Subject Audio Source.

4.3. Using S-video

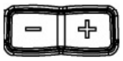
When using a FieldView Device model which has S-video input, the S-video source must be attached to the FieldView Device and powered before setting the video source to **S-video** in the *Configuration Video* tab. Otherwise, the video stream being sent to the FieldView Application may not synchronize and may not be aligned to the frame. If synchronization does not occur, correct it by setting the FieldView Device's video source to **Internal** and then back to **S-video**. See *Configuration* on page 18 for more information about configuring the FieldView Device video.

4.4. Turning the Front Light On or Off



The light on the front of the FieldView Device can be used to provide extra lighting in dim lighting situations. Use the right cursor pad button to toggle the light on or off. Note that if the FieldView Device is displaying a configuration or directory screen, the **Light** button operates as a right arrow key.

4.5. Adjusting Zoom Levels



To adjust zoom levels, use the zoom buttons located above the Navigation pad on the back of the FieldView Device.

- To adjust the zoom one step at a time, press and release the **Minus** (–) button (zoom out) or the **Plus** (+) button (zoom in).
- To adjust zoom levels at a faster rate, press and hold the **Minus** or **Plus** button, and release it when the zoom level is where you need it.

The minimum focusing distance changes with the zoom level. As you zoom in, the minimum focus distance moves out. For example, if you are close to an object and zoom in on it, the object will become out of focus if you zoom in too far. The focus adjusts automatically when zooming unless the FieldView Device is in Manual Focus mode. See *Focusing*, next.

If you need to get very close to your subject, set the zoom level to 1× (minimum zoom) and move the FieldView Device until you reach the desired image size. This will ensure that you achieve the best focus.

4.6. Focusing

4.6.1. Automatic Focus

The FieldView Device normally operates in automatic focus mode and will focus on subjects centered in the viewfinder. Focus will continuously update as the distance between the subject and the lens changes or as zoom is adjusted.

There are situations where manual control is desired to fine tune the focus, particularly for objects not centered in the viewfinder. Manual focus control is described in the following section.

Note that zoom and focus controls are available regardless of whether the Viewfinder is currently displayed.

4.6.2. Manual Focus

To set focus manually, the Operator can use the **Plus/Minus** buttons in combination with the **Manual Focus (MF)** button

Manual focus options	
Switch to manual focus and increase or decrease manual focus by one step.	While pressing and holding the **MF** button, press and release a **Plus** or **Minus** button once. When you release the **MF** button, the FieldView Device remains in manual focus mode, locked at the focus level you set.
Switch to manual focus and increase or decrease manual focus at a standard rate.	While pressing and holding the **MF** button, press and hold a **Plus** or **Minus** button until you reach the setting you want. Then release the buttons. When you release the **MF** button, the FieldView Device remains in manual focus mode, locked at the focus level you set.
Switch from manual focus to automatic focus mode.	Press and release **MF** (without pressing **Plus** or **Minus**).
Set a temporary focus lock.	Press and hold **MF** (without pressing **Plus** or **Minus**). The focus stays locked for as long as you continue to hold the **MF** button. Automatic focus mode resumes when you release it.

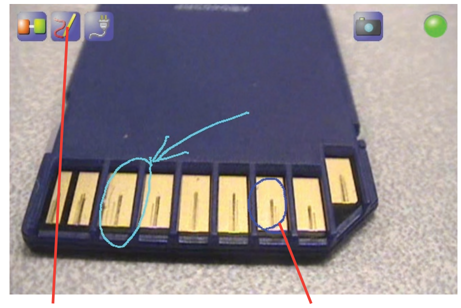
4.7. Telestration (Drawing Lines on the Viewfinder)

Telestration permits the FieldView Device Operator or the FieldView Application software client user to draw freehand lines on a still image or live media stream using the stylus. Telestration markings appear on both the Operator's and the FieldView Application software client display. The system is configured so that lines drawn by the FieldView Device Operator and the FieldView Application software client user appear in different colors.

Telestration is available on the Viewfinder at any time, on both streaming media and still images. It is disabled if the viewfinder is hidden (e.g. in the configuration or directory screens).

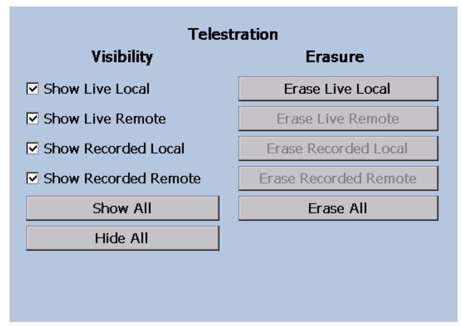
Once telestration lines have been added, an Eraser icon appears in the viewfinder. Tap the **Telestration** icon to display the Telestration menu. Options in the menu allow you to select which telestration lines to show or hide and which lines to erase.

Telestration lines drawn on the Viewfinder.



Tap the Telestration icon to show, hide, or remove existing telestration lines.

Lines drawn by the Operator appear in a different color from lines drawn by the FieldView Application software client user.



Telestration menu

4.8. Capturing Still Images

To capture a still image, press the **Capture** button on the top of the FieldView Device. (The Capture button behaves like the shutter button on a digital camera.) The captured image is also displayed briefly on the Viewfinder and then cleared. If the FieldView Device is connected to a FieldView Application, the image is sent to the FieldView Application and displayed in the ImageViewer window, but is not shared. Note that if there are telestration lines, these are captured as part of the image.

If **Configuration > General > Freeze video stream when capturing a still image** is set (see page 18), the video stays frozen in the viewfinder and the FieldView Application Call window until the **Capture** button is pressed or you tap on the **Capture** icon. This also occurs when sharing images.

4.9. Sharing Images

The FieldView Device operator and FieldView Application client can collaborate by sharing images with each other while in a call.

To capture and share a new image:

- Press and hold the **Capture** button until the FieldView Device reports "Still image sharing started."

  The FieldView Device sends the image to the FieldView Application and saves a copy in the session folder on the SD card.

To end sharing:

- Press the **Capture** button briefly.

To share an existing image:

1. Press the **Display** button repeatedly until the Main menu appears.
2. Tap **File Browser**.

   The File Browser window appears.
3. Tap the folder containing the image that you want to share.

   Image thumbnails appear in the pane to the right.
4. Select the image you want to share and tap **Share** in lower left pane.

   The FieldView Device sends the image to the FieldView Application and saves a copy in the session folder.

4.10. Recording and Playing Videos

The FieldView Device can record video independent of its call state. That is, it can record while connected, disconnected, or calling. The only time that it cannot record is while it is playing back a previously recorded video.

Note: You must insert an SD memory card to record and playback videos. Do not remove the SD card while recording. This can corrupt the card data.

4.10.1 Recording a video

To record a video:

1. Press the **Record** button on the back of the FieldView Device.

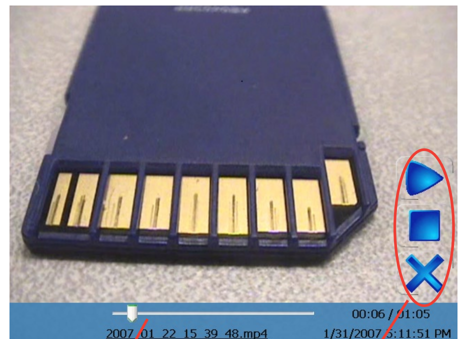
   The message "Please wait – record is starting" appears briefly. The **Record** icon in the top right of the viewfinder appears when recording starts.
2. To stop recording, press the **Record** button again.

   The FieldView Device saves the recording in the location specified in the *General* tab of the Configuration screen. (See *Configuration* on page 18 for more information.) The file name is based on the date and time of the recording.

Video recordings include any telestration lines made during the recording. Telestration lines will appear when you play or stream a video recording, although they will be in different colors.

When you share an image while recording a session, the image appears in the recording.

Video Playback screen.



Slide trackbar to advance the video recording.

Playback controls.

4.10.2 Playing a video recording

To play back a video that you have just recorded or replay a video:

1. Press the **Display** button on the back of the FieldView Device three times to display the Main menu.
2. Tap **File Playback**.

   The Video Playback screen appears.
3. Tap the **Play** icon to start the video.

   The FieldView Device plays the last video recorded or the last video played, whichever is more recent.

To play back a previously recorded video see *Play Videos* on page 17.

For more information on the Main menu, see *Menus* on page 15.

	Play
	Pause playback
	Stop playback
	Return to viewfinder

Playback controls.

4.11. Streaming a Video Recording

You can stream a video that you have just recorded or replay a video to a FieldView Application. (Note: You cannot stream live video and a recording simultaneously.)

To stream a video that you have just recorded or replay a video:

1. Connect to a FieldView Application.
2. If the FieldView Device is streaming, press the **Streaming** button on the top of the FieldView Device to stop streaming.
3. Press the **Display** button on the back of the FieldView Device three times to display the Main menu.
4. Tap **File Playback**.

   The video playback controls appear.
5. Press the **Streaming** button to start streaming and playing the video.

   The FieldView Device streams the last video recorded or the last video played, whichever is more recent

If you don't want to stream the entire video, you can use the playback track bar, and the **Play** and **Pause** icons to move to the point in the recording where you want to start streaming. When you find the desired place, press the Streaming button.

To stream previously recorded videos, use the File Browser. See *Managing Files* on page 16.

To switch to the File Browser from the Video Playback screen, tap the filename just under the trackbar.

The FieldView Application client can also stream a previously recorded video to the FieldView Device. Playback controls appear as shown above and operate the same as when the FieldView Device is streaming the video.

5. Viewfinder Features & Display Modes

The display on the back of the FieldView Device functions as a camera viewfinder. By default, it shows what the lens at the front of the FieldView Device is viewing, but it can also provide status information and menus. Depending on the display mode, the Viewfinder uses a status bar, icons and popup windows to provide information, notifications and prompts as necessary.

Note that status bar information and menus only appear for the FieldView Device Operator. This information does not appear for the FieldView Application client software user who is receiving streamed information.

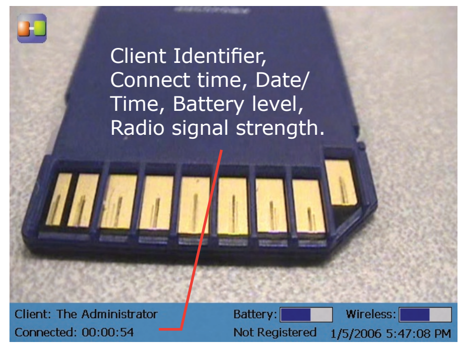


Default Viewfinder mode.

5.1. Controlling the Viewfinder Mode

To control the Viewfinder mode, press the **Display** button on the back of the FieldView Device. Starting from the Default mode that appears when the FieldView Device first turns on, Operators can press **Display** one or more times to switch the Viewfinder into a different mode, as described below.

Display button	Result
Press and hold	Toggles the display backlight on or power save.
Press and release once	Session information displayed.
Press and release second time	Stream information displayed.
Press and release third time	Main Menu displayed—for configuration and other setup options.
Press and release fourth time	Display returns to default Viewfinder mode.



Click the Display button once for Session information.

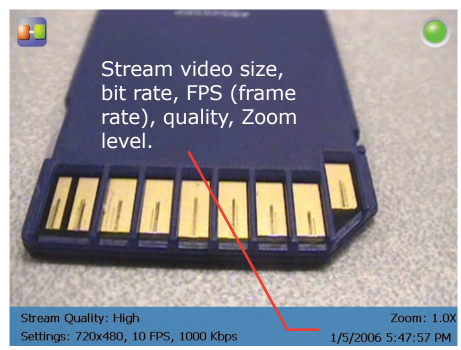
5.1.1. Turn Viewfinder Backlight On or Power Save

If you are in a call that does not require the Viewfinder backlight, the Operator can press and hold the **Display** button until the backlight dims and enters power-saving mode. Press and hold the button again to turn the backlight back on. Placing the backlight in power save extends run time when operating on battery.

Note: The default backlight level can be set from the FieldView Device configuration screen available from the Main Menu.

5.1.2. Default Viewfinder Mode

This is the default mode that appears when you first turn the camera on. Viewfinder mode maximizes the visible video area by providing as little extraneous screen information as possible. The Status bar area is blank, but icons, pop-up notifications and prompts appear as necessary.



Click the Display button twice for Streaming status information.

5.1.3. Session Information

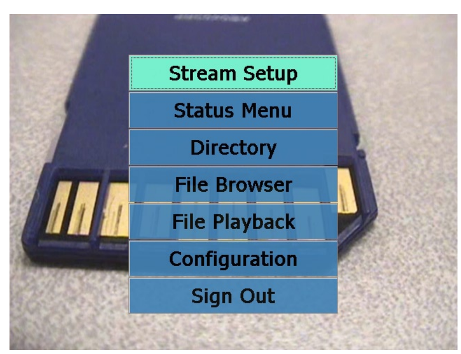
Starting from the default viewfinder, press **Display** once to display session information in the Status bar. The viewfinder shows live camera video and status information as shown at right.

5.1.4. Streaming Status

Starting from the default viewfinder, press **Display** twice to display stream information in the Status bar. The viewfinder shows live camera video and status information as shown at right.

5.1.5. Viewfinder Main Menu

Starting from the default viewfinder, press **Display** three times to display the Main Menu. The viewfinder shows live camera video and the menu as shown at right. For more information on the Main Menu and other menu options, see page 15.



Click the Display button three times to display the Main Menu.

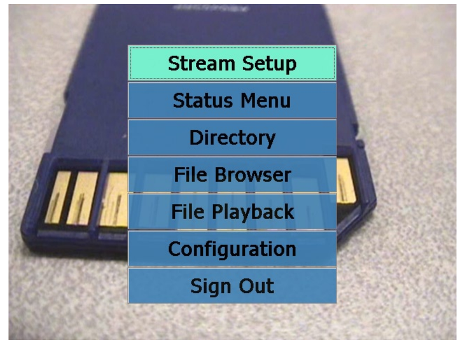
6. Menus

The FieldView Device has a menu system that allows Operators to check and update system settings, view status, access the directory or sign out from the FieldView Device.

Note that system configuration and other setup tasks are usually performed by your site administrator and are described in the System Administration manual.

To display the Main Menu, start from the default viewfinder display, and press the **Display** button three times.

You can display the menus at any time, even while streaming media to a Client user. The person on the receiving end will not see the menus.



Main Menu on the FieldView Device.

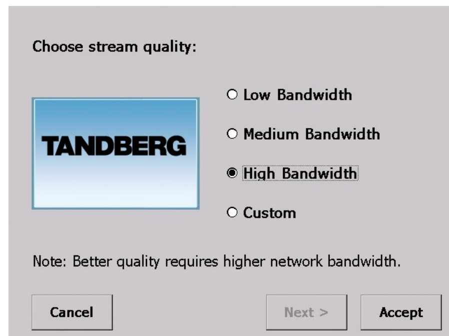
6.1. Stream Setup

To check or change streaming setup options:

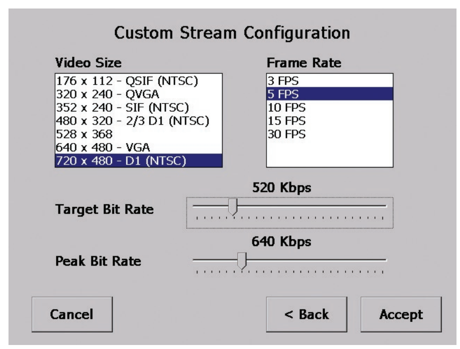
1. Starting from the default Viewfinder display, press the **Display** button three times to display the Main Menu.
2. From the Main Menu, tap **Stream Setup** to display the streaming options. Three preset configurations are available (defined by your site administrator).
3. To select a built-in configuration, tap **Low Bandwidth**, **Medium Bandwidth** or **High Bandwidth**, and then select **Accept**.
4. To set up a custom configuration, tap **Custom** and then select **Next >** to display the Custom Stream Configuration window. This allows an Operator to configure the stream parameters for circumstances where the predefined settings are not adequate.

   Note: The **Video Size** and **Frame Rate** choices change depending on whether the FieldView Device contains an NTSC or PAL camera.
5. Select your configuration options, and then select **Accept**.

Note: The stream quality can also be selected by the FieldView Application operator.



Select a preset option, or select Custom to configure a custom stream.



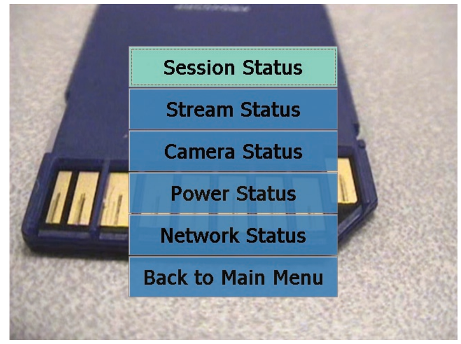
Configuring Custom stream options.

6.2. Checking Status

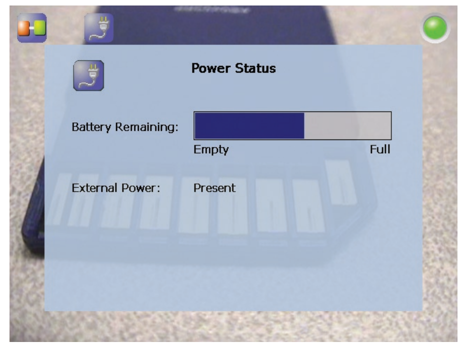
The Main Menu offers a number of options for checking status, as shown at right. To view status information:

1. Starting from the default Viewfinder display, press the **Display** button three times to display the Main Menu.
2. From the Main Menu, tap the **Status Menu** option to display a second menu with Status options.
3. Tap a status option to view a Status screen for that item. For example, see Power Status at right.

   To dismiss a Status window and return to the Status menu, tap it with the stylus, or click the **Display** button.
4. Contact your system administrator for more information on any particular status item and what it means.



Status options.



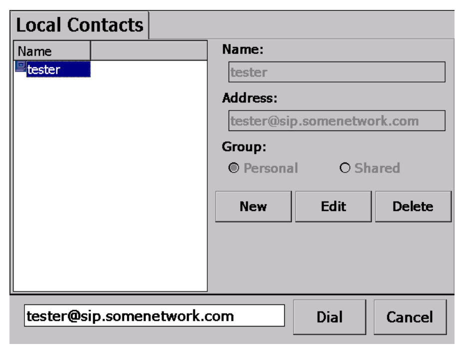
Status window for Power.

6.3. Viewing Local Contacts

The Local Contacts directory contains a list of names and addresses that can be called from the FieldView Device. To start a call, Operators can display the Local Contacts by tapping **Directory** in the Main Menu, selecting a name and then tapping the **Dial** button on the screen.

However, the quickest way to access the Local Contacts from the viewfinder is to press the **Send** button, as described on page 8.

If you are logged in as a user with FieldView Device administrator privileges, you may edit or delete existing contacts or create new ones. Note that these changes are not forwarded to other devices.



Local Contacts screen

6.4. Managing Files

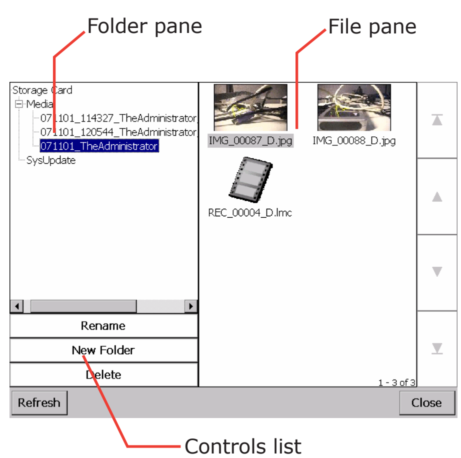
The **File Browser** allows you to organize and play recorded videos.

The **Folder** pane displays the folders in which video recordings are saved. Use the Scroll bar to browse through long lists of folders.

The **File** pane displays the image snapshots and video recordings saved in the selected folder on the SD card. Use the scroll arrows on the right to browse through long list of files.

The options in the **Controls** list allow you to:

- Rename folders and files
- Create new folders
- Delete folders and files
- Play video recordings
- Display still images
- Share still images
- Format the storage card



File Browser screen.

Session Folders and File Names

When you capture a snapshot or record a video, the FieldView Device creates a session folder on the SD card in which it saves these files. The name of the folder is based on the date, time, and user names using the convention:

yymmdd_hhmmss_FieldViewApplicationuser_FieldViewDeviceuser

where:

- *yymmdd* is the date of the session
- *hhmmss* is the time that the session started (Present only if connected to a FieldView Application.)
- *FieldViewApplicationuser* is the user name that is logged into the FieldView Application (Present only if connected to a FieldView Application.)
- *FieldViewDeviceuser* is the user name that is logged into the FieldView Device

The snapshot and recording file names are based on their media type, a serial number, the source, and a version number. File names use the convention:

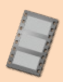
media_serial#_source_version#.extension

where:

- *media* is either IMG for a snapshot or REC for a recording
- *serial#* is a sequential number assigned by the source device
- *source* is either A for FieldView Application or D for FieldView Device
- *version#* is a sequential number that is added if an image has been modified during sharing
- *extension* is either *.jpg* for snapshots or *.lmc* for recordings

File Pane Icons

Files listed in the File Pane are displayed as either image thumbnails or file icons.

Icon	Description
	Image file. Snapshots usually appear as thumbnails but if the FieldView Device cannot display a thumbnail, it displays the Image File icon.
	Video recording file.
	Configuration file. (Files with an .XML extension)

6.4.1. Rename files and folders

To rename a file or folder

1. Select the file or folder you want to rename.
2. Tap **Rename**.

   The on screen keyboard appears.
3. Using the stylus, tap the characters on the keyboard to enter a new name.
4. Tap **Rename**.

6.4.2. Play videos

To play a video:

1. Using the Folder and File panes, select the video you want to play.
2. Tap **Play**.

   The video playback controls appear. See *Recording and Playing Video* on page 12 for information on using the Video Playback screen.
3. Tap the **Play** icon to start the playback.

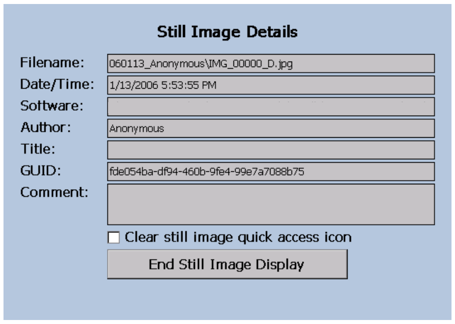
Note: When streaming video recordings, the FieldView Device adjusts the current stream parameters to match the frame rate, resolution, bit rate, etc. of the recording.

6.4.3 Display and share images

To display an image file:

1. Using the Folder and File panes, select the image you want to display.
2. Tap **Display**.

   The FieldView Device opens the image file.



Still Image Details screen

To end still image display:

1. Press the **Capture** button.

   Or

   Tap the **Camera** icon at the top of the screen.

   The Still Image Details screen appears.
2. Tap **End Still Image Display**.

To share an image:

1. Make a call to a FieldView Application.
2. Open the File Browser.
3. Using the Folder and File panes, select the image you want to share.
4. Tap **Share**.

6.5. Configuration



Tabs on the Configuration window.

To check or update FieldView Device configuration options:

1. Starting from the default Viewfinder display, press the **Display** button three times to display the Main Menu.
2. From the Main menu, tap the **Configuration** menu option to display a Configuration window.

From here, follow on-screen instructions to adjust the configuration options as necessary. The table below is provided as an overview. Please see the System Administration manual for detailed information on FieldView Device configuration.

Tab	Configuration Options Provided
General	Adjust the standby timeout (amount of time before the FieldView Device will switch from On to Standby, if it is idle). Specify the location of saved images and video recordings, and Still Image Capture button mode.
Display	Adjust the brightness of the viewfinder backlight or recalibrate the touch panel.
Video	Adjust the video settings of the camera and select the video source (internal camera or external via S-Video connector).
Audio	Options for controlling volume and mute levels for the speaker. You can set the maximum ring volume (the volume will ramp up to this setting regardless of the overall volume setting of the FieldView Device) and request voice/audio reduced bandwidth usage. This screen can also be used to select the source for subject audio—either the built-in microphone or the Audio line in connector.
Network	This screen allows you to adjust Network settings. Please see the System Administration manual for detailed instructions.
Radio	Options to enable the radio and select radio channels.
SIP	SIP server information necessary for registering this device.
Security	This screen allows you to set default login options and import security certificates.

Tab	Configuration Options Provided
SNMP	Options to configure the FieldView Device for management by FieldView Management Suite (FMS).
Time	Follow on-screen instructions to adjust time and date settings.
Version	FieldView Device version and copyright information. Software updates may also be done from this screen (consult the System Administrator's Guide).
Maintenance	Change user passwords and import contacts and users. (Note that password changes are not forwarded to other devices.)

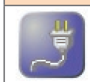
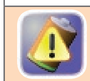
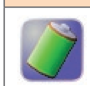
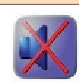
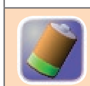
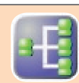
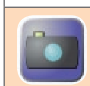
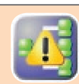
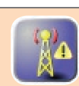
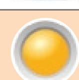
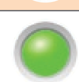
7. Icons

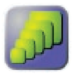
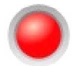
Some options or operating conditions cause notification icons to appear on the screen. Many of the icons are touch sensitive—tap the icon with the stylus to view a pop-up message or status screen. For example, tapping the battery warning icon will provide a status screen showing more detailed battery status. Tap the status screen again or press the **Display** button to dismiss the message.



Viewfinder icons provide status information and other notifications.

Standard FieldView Device Icons

Icon	Description	Icon	Description
	Connected to external power		Audio volume increased
	Battery level is critically low or the battery is defective		Audio volume decreased
	Battery fully charged		Audio output muted
	Battery low		Microphone muted
	General alert		Microphone enabled
	Backlight power save		Network connected
	Backlight on		Network disconnected
	Image captured (tap icon or press Capture button to return to live video)		Network error
	Image captured but not displayed (tap icon to dislplay/ share the last captured image)		Radio link disconnected
	Call connected		Low radio signal strength
	Incoming call invitation		Standby
	Outgoing call request (waiting for remote side to accept)		Stream initializing
	Call disconnected		Media stream active
	Manual focus mode		Media stream is experiencing significant packet loss

Icon	Description	Icon	Description
	Optical Zoom		Record active
	Illumination is off		Media stream error
	Illumination is on		Telestration icon (tap icon to open the Telestration menu)
	Process successful (e.g. software update complete)		

8. Maintaining the FieldView Device

Follow the guidelines below to ensure the FieldView Device remains in good working order:

8.1. General Recommendations

- Do not expose the FieldView Device to dust, rain or moisture.
- Protect the FieldView Device from temperature extremes (e.g. Do not leave it on an automobile dashboard or on top of a heat source).
- Observe the rated operating and storage environmental specifications.
- The FieldView Device is a precision instrument and must be protected from drop and vibration. Always use the provided wrist lanyard or a neck strap to prevent accidental drop.
- Operate the FieldView Device in a well ventilated area to prevent overheating. Do not block cooling vents. Do not operate the FieldView Device in a closed environment where it can overheat (e.g. a sealed plastic bag).

8.2. Display/Touch Screen

- LCD displays deteriorate when exposed to ultraviolet rays. Do not leave the FieldView Device in direct sunlight or strong ultraviolet rays for extended periods of time.
- If you store the FieldView Device above or below the rated storage temperature, it may cause permanent damage to the display.
- Extended contact with water drops or finger grease may cause discoloration or spots.
- Protect the screen from scratches. Use the supplied stylus or plastic-tipped pens designed for use on a touch screen. Never use a sharp object on the touch screen.
- Tap the screen lightly. Do not press hard or strike the screen.
- Clean the screen with a soft cloth moistened with distilled water. Do not use commercial or household cleaners as they may damage the screen.
- Consider using a replaceable screen protector to help protect against scratches.

8.3. Optics

- If you will be using the FieldView Device in a dusty or dirty environment, it is recommended that the lens be protected with a screw-on lens filter such as a standard 30mm skylight filter.
- Clean the lens with optical lens cleaning cloth and cleaning solution. Do not use general purpose tissue.

8.4. Ergonomic Recommendations

Important: Follow the recommendations below to minimize risk of ergonomic injury.

- Follow the recommendations of your Health and Safety Officer regarding your company's safety policies and procedures.
- Whenever possible, reduce or eliminate repetitive motion.
- Maintain a natural position while operating the equipment.

9. Technical Specifications

System Architecture

- High performance, multiprocessor architecture optimized for real-time multimedia processing and communications in a handheld form factor
- Microsoft WinCE 5.0
- SIP-based session control
- Windows-based PC Client allowing for easy call initiation and camera control

Physical Characteristics

- Size—174 (6.85”) mm wide × 96.0 (3.78”) mm high × 87.1 (3.43”) mm deep
- Weight—720 grams (1.59 pounds)
- Non slip hand grips
- Integrated LED-based illumination
- Integrated water resistant doors for all external connectors

Optical Performance

- CCD image sensor—capable of high precision close-up video
- 10× optical zoom, f=4.2 mm (wide) to 42 mm (tele), F1.8 to F2.9
- 10 mm minimum working distance (wide end)
- 1000 mm minimum working distance (tele end)
- 1.5 lx (50 IRE) minimum illumination
- Automatic/manual white balance
- Manual or automatic focus

Video Standard

- MPEG-4 Simple Profile @ L3
- Up to 2.5 Mbps
- User selectable resolutions and frame rates up to
  - NTSC: D1 (720 × 480) at 30 fps
  - PAL: D1 (720 × 576) at 25 fps

User Interface & Features

- VGA (640 × 480) display/viewfinder
- Integrated touch screen
- User-friendly graphical user interface
- Dedicated call send and end buttons—simple end-user experience much like a mobile telephone
- Still image capture button
- Stream button—video stream can be started and stopped by pushing one button
- Context sensitive cursor pad buttons (includes volume controls, microphone mute, and illumination control)
- Media record to SD card
- Manual focus button
- OSD (On Screen Display) button for easy access to status and other information
- Integrated contacts directory
- End user selectable streaming parameters
- LED indicators for power, stream/record, power/charging, and network link

Collaboration Features

- Form factor and software optimized to allow real time voice and video collaboration related to subject matter being captured by the FieldView Device
- Telestration: allowing both the FieldView Device operator and PC operator to draw on top of the video or frozen image—both “ends” of the conversation see the drawing simultaneously
- Remote control of major FieldView Device features—zoom, focus, still image capture, illumination, and stream parameters

Audio Features

- Built-in omni-directional microphone for VoIP support
- Built-in microphone or line-in input for capture of subject audio time synchronized with the subject video
- Wired headset support ideal for high noise environments
- Speakerphone with acoustic echo cancellation
- Silence suppression of VoIP communications to minimize network bandwidth utilization
- Dynamic jitter buffer adjusts to changing network conditions to balance low latency with a low voice dropout rate

Audio Standards

- VoIP: G.711, GSM (13 kbps)
- Subject Audio: G.711, GSM (13 kbps)

Security

- User ID and password control
- WLAN Network Authentication:
  - WPA – Enterprise
  - WPA – PSK
  - WPA2
  - WPA2 – PSK
  - Open
  - Shared
- WLAN Data Encryption:
  - WEP
  - TKIP
  - Disabled
- 802.1X Authentication
  - EAP–TLS
  - PEAP

External Interfaces

- SD Memory Card
  - Minimum write speed: 9.0 MB/sec
  - Minimum read speed: 10.0 MB/sec
- S-video In
- External power in
- Headset
  - mono 32 ohm speaker
  - 3.5mm audio jack, 3 conductor, tip mic, ring speaker
- 10/100 Mb Ethernet
- USB Host 2.0, low/full speed
- Audio Line-in
  - 1 Vrms input
  - 2.5 mm audio jack, 2 conductor, tip line-in

Communications

- IP calls - SIP
- Integrated 802.11 b/g radio
- RJ-45 10/100 Ethernet

Power

- Rechargeable 2400 mAH Li-Ion battery pack
- External power
  - Input: 12 VDC @ 1A
  - External Power Adapter Specifications:
    - Output Voltage: 12 VDC @ 1.5A
    - Rated Input Voltage: 100 – 240 VAC
    - Input Voltage Range: 90 – 264 VAC

- Rated Input Frequency: 50–60 Hz
- Input Frequency Range: 47–63 Hz

Operating Environment

- Temperature:
  - Operating: 0° to 40° C
  - Storage: –20° to 60° C
- Operating humidity: 5–80% (non-condensing)

9.1.1. Service Information

If you encounter difficulties with the FieldView Device, contact your corporate technical support department. They will determine whether the problem exists within the network infrastructure or the FieldView Device equipment and will contact TANDBERG Support. See page 2 for TANDBERG contact information.

10. Safety & Regulatory Information

General

- Do not attempt to service this equipment. All repairs must be done by an authorized TANDBERG service depot.
- Do not block or insert objects into the air vents or other openings in the equipment. Doing so may damage internal components and may cause fire or shock hazards.
- Use only a TANDBERG-supplied power adapter with the equipment. Use of other adapters may cause fire or explosion hazards.
- Operate the external power adapter in a well ventilated area. Do not cover the power adapter with papers or any other items as the adapter may become hot.

Battery

CAUTION!
Risk of explosion if battery is replaced by an incorrect type or installed incorrectly.

- Observe the correct polarity when changing the lithium battery. Install battery according to the manufacturer's product documentation.
- Replace battery only with the same type as recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's product documentation and local disposal requirements.

- Use only TANDBERG-supplied batteries with the FieldView Device. Use of other types may increase the risk of fire or explosion or damage to the equipment.
- Do not store the battery in places where metallic objects may come in contact with the battery terminals (e.g. in a pocket with keys, in a drawer with paper clips, etc.). The resulting short-circuit can cause extremely high temperatures that may damage the battery and cause burns or fires.
- Do not attempt to disassemble the battery. The battery poses a burn hazard if handled improperly. Immediately dispose of a damaged or leaking battery.
- Do not store or leave the FieldView Device or FieldView Device battery near a heat source (e.g. radiator, stove, heater, automobile dashboard, etc.) as the battery may explode or ignite.

Battery Disposal

The uses a Lithium-Ion battery and must be disposed of properly:

- The battery must not be disposed with household or office waste.
- Do not dispose of the battery in a fire as the battery may explode.
- Contact your local waste disposal agency for the address of the nearest battery disposal location.

European Regulatory Information

This product meets the essential health and safety requirements and is in conformity with the relevant EU Directives listed below:

- R&TTE 1999/5/EC
- EU Low Voltage Directive 72/23/EEC
- EU EMC Directive 89/336/EEC

This product has been tested and found to comply with *EN 61000-6-2:1999 Immunity for Industrial Environments*. When in the presence of high levels of radio-frequency electromagnetic fields, the user may notice interference within the audio or video content present on the equipment. If this occurs the user should re-orient the equipment or increase the separation between the equipment and the interfering source. If an external audio headset is being used and is the receiving source of the interference, the user may experience improved performance by using a headset which has been tested and found to comply with *EN61000-6-2:1999 Immunity for Industrial Environments*.

FCC Class A Notice (S/N: 001000 – 001099)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this

equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This equipment was tested for RF Exposure compliance and meets the requirements with Maximum Peak Spatial-Average SAR1g of 0.01 W/kg. No metallic accessories should be used with this device and multiple devices should not be co-located at a distance of less than 20 cm.

Caution: Changes or modifications that are not expressly approved by the manufacturer could void the user's authority to operate this equipment.

FCC Class B Notice (S/N: 001100 and higher)

This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These rules are designed to provide reasonable protection against harmful interference in a residential installation. This product generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If the equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Changes or modifications that are not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Industry Canada Class A Notice (S/N: 001000 – 001099)

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de classe A est conforme à la norme NMB-003 du Canada.

Industry Canada Class B Notice (S/N: 001100 and higher)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de classe B est conforme à la norme NMB-003 du Canada.

Safety Notice

The mobile streaming camera, Model was evaluated to IEC 60950-1:2001, EN60950-1:2001, UL 60950-1:2003 and CSA C22.2 60950-1:2003 standards and found to be in compliance with the standard requirements.

RF Exposure Notice

For body worn operation, this product has been tested and meets RF exposure guidelines when used with an accessory that contains no metal. Use of other accessories may not ensure compliance with RF exposure guidelines.

This equipment was tested for RF Exposure compliance and meets the requirements with Maximum Peak Spatial-Average SAR1g of 0.01 W/kg. No metallic accessories should be used with this device and multiple devices should not be co-located at a distance of less than 20 cm.

Warning: Changes or modifications not expressly approved by TANDBERG could void the user's authority to operate this equipment.

Safety tested Production monitored TÜV PRODUCT SERVICE C NRTL US

U8 06 10 61052 001

产品中有毒有害物质表

部件名称	有毒有害物质或元素					
	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚
金属部件	X	O	O	O	O	O
印刷电路板及组件	X	O	O	O	O	O
线缆和线缆组装	X	O	O	O	O	O
显示器（包括照明灯）	X	X	O	O	O	O

说明:

O：表示该有毒有害物质在此部件所有均质材料中的含量均在中国标准《电子信息产品中有毒有害物质的限量要求》(SJ/T 11363-2006) 所规定的限量要求以下。

X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出中国标准《电子信息产品中有毒有害物质的限量要求》(SJ/T 11363-2006) 所规定的限量要求。

注意：在所售产品中未必包含所有上述所列部件。

除非在产品上有另外特别的标注，以下标志为针对所涉及产品的环保使用期限标志。环保使用期限只适用于产品在产品手册中所规定的使用条件。

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